

REMARKS

After entry of this amendment, claims 1-24 are pending in the application.

Claims 1, 2 and 16 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Schmalz et al. (U.S. 6,382,692). Claim 1 particularly points out and distinctly claims that the elements projecting from the contact surface of the suction body include a free end intersected by a longitudinal axis of the elements, wherein the free end is displaced away from the contact surface of the suction body and the longitudinal axis is oriented so as to intersect the contact surface. Support for this amendment can be found within Applicant's originally filed Figures 2 and 3a-d, as well as the accompanying text. In contrast, Schmalz et al. does not anticipate, teach or suggest the claimed combination of elements as amended. The longitudinal axis of elongated ribs (36), (38), and (40) of Schmalz et al. extend essentially parallel to surface (30) of vacuum body (20) and free end (44) of ribs (36), (38), and (40). As such, the longitudinal axis of the ribs does not intersect the free end of the ribs. Furthermore, free end (44) of ribs (36), (38), and (40) abut surface (30) of vacuum body (20) near the outer circumference of the vacuum gripper, and consequently, the free end is not shown displaced from surface (30). Reconsideration of the Examiner's rejection of claims 1, 2, and 16 as being anticipated by Schmalz et al. is respectfully requested.

Claims 1-3, 5-7, 11, 12, 14, and 15 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Lingen (U.S. 5,611,585). This rejection is respectfully traversed. The Examiner contends that element (3) of Lingen corresponds to a flexible suction body. To the contrary, element (3) is described in Lingen as a "suspension arrangement" for enabling the vacuum lifting plate to be lifted and moved by a hoisting device (see column 2, lines 59-62). Lingen also does not describe suspension (3) as being flexible. Indeed, the only component that is expressly described as being flexible is flexible strip (7) (see column 2, lines 63-66, and Fig. 5). Furthermore, although not described as being flexible, its possible to assume that outer and inner sealing lips, (23) and (24) respectively, are also flexible. Aside from these three components, no other component is characterized as being flexible. Consequently, in contrast to the Examiner's assertion, Lingen does not disclose a flexible suction body.

Notwithstanding, Applicant's invention defined in claim 1 particularly points out and distinctly claims that the elements projecting from the contact surface

of the suction body include a free end intersected by a longitudinal axis of the elements, wherein the free end is displaced away from the contact surface of the suction body and the longitudinal axis is oriented so as to intersect the contact surface. In contrast, Lingen does not anticipate, teach or suggest the claimed combination of elements as amended. The longitudinal axis of setting strip (5) of Lingen is aligned parallel to surface (4) of the vacuum body (20) and the free end of the setting strip, which corresponds to the exposed surface of flexible strip (7) opposite the connecting interface between flexible strip (7) and metal strip (6). Consequently, the longitudinal axis of the ribs does not intersect the free end of the ribs, nor does it intersect contact surface (4) of the suction body. Reconsideration of the Examiner's rejection of claims 1-3, 5-7, 11, 12, 14, and 15 as being anticipated by Lingen is respectfully requested.

Claims 1-3, and 8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Carpenter (U.S. 3,926,466). This rejection is respectfully traversed. The Examiner asserts that element (1) of Carpenter, which actually references the entire apparatus (see column 1, lines 56-59), corresponds to a flexible suction body. However, contrary to the Examiner's assertion, nowhere does Carpenter disclose that the suction body of the apparatus is flexible. The apparatus in Carpenter consists of a plurality of resilient seals (12), (30), and (32) attached to a plate (10). The only members indicated as being flexible are the seals. Consequently, Carpenter does not disclose a flexible suction body.

Notwithstanding, Applicant's invention as defined in claim 1 particularly points out and distinctly claims that the elements projecting from the contact surface of the suction body include a free end intersected by a longitudinal axis of the elements, wherein the free end is displaced away from the contact surface of the suction body and the longitudinal axis is oriented so as to intersect the contact surface. In contrast, Carpenter does not anticipate, teach or suggest the claimed combination of elements as amended. The longitudinal axis of vacuum seals (12), (30), and (32) of Carpenter are aligned parallel to the lower surface of plate (10) and the free end of the vacuum seals, which corresponds to the exposed surface of the seals opposite plate (10). As a consequence, the longitudinal axis of the ribs does not intersect the free end of the seals, nor does it intersect plate (10) to which the seals are attached. Reconsideration of the Examiner's rejection of claims 1-3, and 8 as being anticipated by Carpenter is respectfully requested.

Claims 1-5, and 8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Farmer et al. (U.S. 3,326,593). Applicant's invention as defined in claim 1 particularly points out and distinctly claims that the elements projecting from the contact surface of the suction body include a free end intersected by a longitudinal axis of the elements, wherein the free end is displaced away from the contact surface of the suction body and the longitudinal axis is oriented so as to intersect the contact surface. In contrast, Farmer et al. does not anticipate, teach or suggest the claimed combination of elements as amended. The longitudinal axis of the ribs formed by elongated channels (71) of Farmer et al. extend parallel to the bottom of the channel and free end (68) of the ribs. Consequently, the longitudinal axis of the ribs does not intersect the free end of the ribs, nor does it intersect the bottom of the channel. Accordingly, reconsideration of the Examiner's rejection of claims 1-5, and 8 as being anticipated by Farmer et al. is respectfully requested.

Claims 1, 2, 12, and 13 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Wood (U.S. 3,240,525). This rejection is respectfully traversed. Features (24), (26), and (28) of Wood, which the Examiner contends constitute a microstructure formed of one of a rod, louver, and pin-shaped elements, are actually recessed channels (see column 2, lines 70-73, and column 3, lines 1-13), and therefore do not include a rod, louver, or pin-shaped element. Furthermore, Applicant's invention as defined in claim 1 particularly points out and distinctly claims that the elements include a free end intersected by a longitudinal axis of the elements, wherein the free end is displaced away from the contact surface of the suction body and the longitudinal axis is oriented so as to intersect the contact surface. In contrast, Wood does not anticipate, teach or suggest the claimed combination of elements. Reconsideration of the Examiner's rejection of claims 1, 2, 12, and 13 as being anticipated by Wood is respectfully requested.

Claims 1 and 2 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Reimann (U.S. 6,203,083). This rejection is respectfully traversed. The Examiner asserts that Reimann discloses a flexible suction body (2). Applicant has carefully reviewed the Reimann reference and has not discover any portion of the patent that describes body (2) as being flexible. To the contrary, one of the stated advantages of the device described in Reimann is that by having the body surround the elastomeric bearing member (3) on all sides the bearing member is prevented from deforming, which enables the bearing member to be more securely held in the body (see column 1, lines 51-65). Furthermore, Reimann also discloses that it is

desirable to reinforce the body with glass fibers (see column 2, lines 34-35), which will increase the rigidity of the member. Constructing body (2) from a flexible material as the Examiner contends would thus defeat one of the stated advantages of the Reimann device. Notwithstanding, Applicant's invention as defined in claim particularly points out and distinctly claims that the elements include a free end intersected by a longitudinal axis of the elements, wherein the free end is displaced away from the contact surface of the suction body and the longitudinal axis is oriented so as to intersect the contact surface. In contrast, Reimann does not anticipate, teach or suggest the claimed combination of elements as amended. The longitudinal axis of ribs (10) and (11), which the Examiner contends forms a microstructure, are aligned parallel to end surface (5) of pipette (1), as well as the free end of the ribs. As a consequence, the longitudinal axis of the ribs does not intersect the free end of the ribs, nor does it intersect surface (5) of the pipette. Accordingly, reconsideration of the Examiner's rejection of claims 1 and 2 as being anticipated by Reimann is respectfully requested.

Claim 18 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Reimann (U.S. 6,203,083). Claim 18, which has been amended into independent form, has also been amended to more particularly point out and distinctly claim that the suction body, which includes a contact surface and a microstructure projecting from the contract surface, may be produced by injection molding. In contrast, the flexible elastomeric insert (3), which includes the features the Examiner contends corresponds to the microstructure of the present invention, is not described in Reimann as being produced by injection molding. Rather, Reimann merely suggests that the grooves formed in body (2) for receiving the elastomeric insert (3) may be produced by injection molding (see column 2, lines 31-31). Nowhere does Reimann disclose that insert (3) may be formed by injection molding. Accordingly, reconsideration of the Examiner's rejection of claim 18 as being anticipated by Reimann is respectfully requested.

Claims 9, 10, 17, 22, 23 and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Carpenter (U.S. 3,926,466). This rejection is respectfully traversed. It is submitted that the claims are patentably distinct over the cited references. As noted by the Examiner, the seals described in Carpenter are dimensioned to prevent the seals from tearing or deforming when a vacuum is applied to the apparatus. This is exactly the opposite of the how the microstructure of the present invention operates. Whereas the seals in Carpenter are dimensioned to

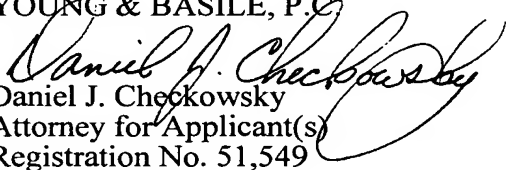
prevent deformation, the elements forming the microstructure of the present invention are dimensioned to ensure that the elements bend over when the device is subjected to a vacuum. Thus, contrary to the Examiner's assertion, one of ordinary skill in the art would not have configured the seals of Carpenter to have the claimed dimensions and aspect ratios of the present invention, since doing so would cause the seals to deform, which, as the Examiner acknowledges, is expressly characterized in Carpenter as being undesirable and to be avoided. Notwithstanding, the rejection is deemed moot on the grounds that claim 1, from which claims 9, 10, 17, 22, 23 and 24 depend from, should be allowed for the reasons as set forth above. Reconsideration of the Examiner's rejection of claims 9, 10, 17, 22, 23, and 24 as being unpatentable over Carpenter is respectfully requested.

It is respectfully submitted that this Amendment traverses and overcomes all of the Examiner's objections and rejections to the application as originally filed. It is further submitted that this Amendment has antecedent basis in the application as originally filed, including the specification, claims and drawings, and that this Amendment does not add any new subject matter to the application. Reconsideration of the application as amended is requested. It is respectfully submitted that this Amendment places the application and claims in a suitable condition for allowance; notice of which is requested.

If the Examiner feels that prosecution of the present application can be expedited by way of an Examiner's amendment, the Examiner is invited to contact the Applicant's attorney at the telephone number listed below.

Respectfully submitted,

YOUNG & BASILE, P.C.


Daniel J. Checkowsky
Attorney for Applicant(s)
Registration No. 51,549
(248) 649-3333

3001 West Big Beaver Rd., Suite 624
Troy, Michigan 48084-3107
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DJC/jml